REMARKS/ARGUMENTS

In an office action dated October 20, 2003, the Examiner rejected claims 18 and 20 under 35 U.S.C. § 102(b) as anticipated by *Potts* (U.S. 4,772,296), claims 1, 2, 4, 6-9, 11 and 12 under 35 U.S.C. § 103(a) as obvious is view of *Potts* and applicant's admitted prior art of Figure 4, claim 21 under 35 U.S.C. § 103(a) as obvious is view of *Potts* and *Karas* (U.S. 4,095,455), and claims 14-16 under 35 U.S.C. § 103(a) as obvious is view of *Potts*, applicant's admitted prior art of Figure 4 and *Karas*. Claim 3, 5, and 17 stand rejected under 35 U.S.C. § 103(a) as obvious is view of *Potts*, applicant's admitted prior art of Figure 4 and *Sacks* (U.S. 5,205,845) and claim 10 stands rejected under 35 U.S.C. § 103(a) as obvious is view of *Potts*, applicant's admitted prior art of Figure 4 and *Sides* (U.S. 4,805,411). Reconsideration by the Examiner is respectfully rejected.

I. THE REJECTION OF CLAIMS 1, 2, 4, 6-9, 11 AND 12 UNDER 35 U.S.C. § 103(A) AS OBVIOUS IS VIEW OF *POTTS* AND FIGURE 4

The Examiner rejected claims 1, 2, 4, 6-9, 11 and 12 under 35 U.S.C. § 103(a) as obvious in view of *Potts* and Figure 4. According to the Examiner:

> Potts teaches a gas chromatograph [4] comprising separation columns [42,44] heated (column 6 lines 50-53) to a desired temperature, a second heater (column 6 lines 50-53) for heating a carrier stream to a desired temperature which is about ten degrees higher than the column temperature (column 6 lines 29-49), a means [56] for cooling the carrier gas stream to a third desired temperature, wherein each of the components is contained within the gas chromatograph housing [4]. Back pressure restriction means [36] are provided upstream of the column and the point of mixing with the feedstream (Figure 1).
>
> Potts teaches the claimed invention except for the use of a valve switch connected upstream of the column and downstream of both sample and carrier gas sources. Applicant admits the use of a valve switch connected upstream of the column and downstream of both sample and carrier gas sources (Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a valve switch connected upstream of the column and downstream of both sample and carrier gas sources as taught by applicant's admitted prior art in the invention taught by Potts to form the sample introduction valve, since both Potts and applicant's admitted prior art use a valve switch to cause the formation of a sample plug for compositional analysis, and the valve of Figure 4

> provides a compact plug for analysis which does not suffer the spreading caused by two concurrently interacting gas flows (as in the junction of Potts Figure 1).

Office action of 10/20/03, pages 3-4.

Claims 1 and 6 have been amended to recite a backpressure restrictor with certain characteristics. Support for these amendments may be found in paragraph 71 from page 18 to page 19 of the instant specification.

The check valve cited by the Examiner in *Potts* is not a "backpressure restrictor" as that term is employed in the specification. A check valve allows fluid flow in one direction but prevents it in the other; the term backpressure restrictor is used at pages 18-19 of the specification to refer to a device that controls flow or pressure ratio. Claims 1 and 6 have been amended to include the characteristics of a backpressure restrictor as that term is used in the specification.

Claims 1 and 6 have been amended to recite aspects of a backpressure restrictor as that term is employed for the invention. *Potts* does not teach a backpressure restrictor (as claimed) in combination with heating of carrier gas to a temperature above that of the column. The Applicant respectfully submits that claims 1 and 6, and all the claims that depend from them, are in condition for allowance.

In addition, claims 4, 12, 16, and 17 recite that the backpressure restrictor is upstream of the valve switch. While it is admitted that valve switches are known, their placement relative to a backpressure restrictor is *not* admitted. Nor is this a meaningless distinction. As explained in the specification, benefits accrue from placement of the backpressure restrictor upstream of the valve switch. The Examiner does not explain how it would have been obvious to arrange a backpressure restrictor upstream of a valve switch, or of all the valve switches as recited in claim 17. In addition, claim 4 has been amended to specify that the backpressure restrictor is downstream of the

carrier gas source. None of this is shown or suggested by the prior art of record. Allowance of claims 4, 12, 16 and 17 is requested.

II. THE REJECTION OF CLAIMS 3, 5, AND 17 UNDER 35 U.S.C. § 103(A) AS OBVIOUS IN VIEW OF POTTS, FIGURE 4 AND SACKS

The Examiner rejected claims 3, 5, and 17 as obvious in view of *Potts*, Applicant's Figure 4, and *Sacks*. In particular, the Examiner stated:

> Potts teaches the claimed invention, including additional valves [51, 53] except for the use of capillary tubing as the backpressure restrictor (i.e. 36).
>
> Sacks teaches the use of capillary tubes as backpressure regulators for a carrier gas stream in a gas chromatograph (column 5 lines 3-7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use capillary tubing as taught by Sacks as the backpressure restrictor in the invention of Potts to form the backpressure restrictor, since such tubing has no moving parts and would be more accurate in the restriction and less susceptible to failure.

Office action at p. 6.

The Applicants respectfully submit that the Examiner is mistaken.

Claims 3 and 5 recite that the backpressure restrictor is capillary tubing. *Potts* not only fails to disclose capillary tubing as a type of backpressure restrictor, but it would not be obvious to employ capillary tubing for the check valve of *Potts*. A check valve allows fluid flow in one direction but prevents it in the other; the term backpressure restrictor is used at pages 18-19 of the specification to refer to a device that controls flow or pressure ratio. The function of these two devices is different and there was no motivation at the time of the invention to use capillary tubing (as recited in claims 3 and 5) instead of a check valve (as shown by *Potts*).

III. THE REJECTION OF CLAIMS 18 AND 20 AS ANTICIPATED BY POTTS

The Examiner rejected claims 18 and 20 as anticipated by Potts under 35 U.S.C. § 102(b). Claim 18 has been amended to recite that the carrier flow upstream of the column should be maintained at a constant rate (as that term is used in the specification).

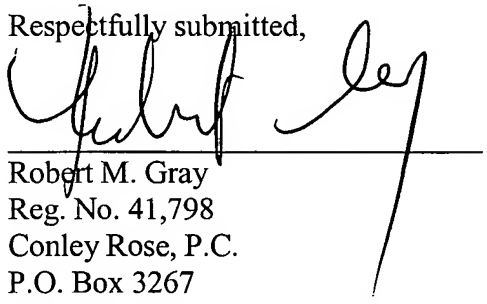
Allowance of claims 18 and 20 is respectfully sought.

IV. CONCLUSION

Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other arguments with respect to patentability which have yet to be raised, but which may be raised in the future. The format of this Amendment and Response to Office Action is believed to conform with the Revised Amendment Practice as described in "Changes To Implement Electronic Maintenance of Official Patent Application Records," 68 Fed. Reg. 38611 (June 30, 2003).

All of the pending claims are believed to be free of the prior art, and reconsideration and withdrawal of the rejections are respectfully requested. If a telephone conference would facilitate the resolution of this matter, the Examiner is invited to telephone the undersigned representative. Should any fees have been inadvertently omitted, or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Deposit Account Number 03-2769 of Conley Rose, P.C., Houston, Texas.

Respectfully submitted,



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